POSTOPERATIVE MECHANICAL SMALL BOWEL OBSTRUCTION INDUCED BY UNIDIRECTIONAL BARBED SUTURE: A CASE REPORT

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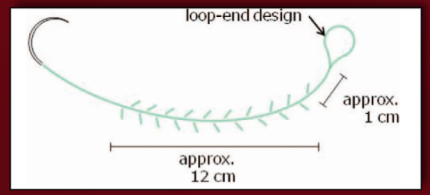
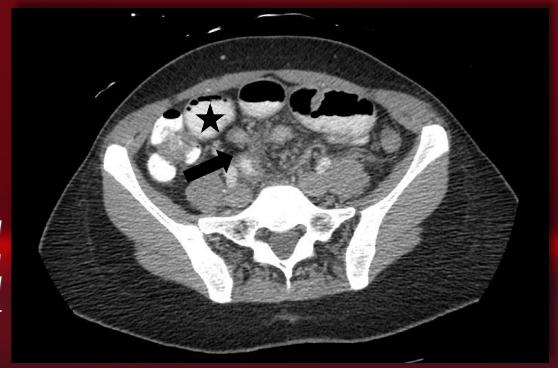
INTRODUCTION

- Unidirectional barbed suture (UBS) eliminates knot tying in minimally-invasive surgery without compromising strength and security[1]
- Efficacy demonstrated in gynecologic, urologic, and orthopedic operations[2], and commonly used in hernia surgery
- Previous case reports of small bowel obstruction associated with UBS
- UBS used in 242 patients for closure of common enterotomy in two layers without incidence of post-operative bowel obstruction at median follow-up of 17.8 months[2]



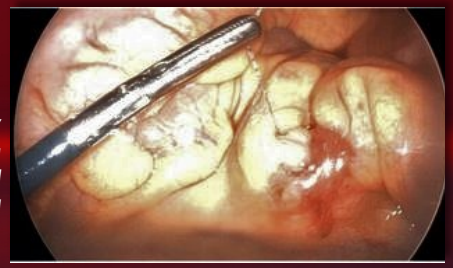
https://www.semanticscholar.org/paper/Use-of-Barbed-Sutures-in-Laparoscopic-Single-Layer-Tsukada-Kaji/5769dc5eff3db2e1e5674c6706e8a17f2a75065c#extracted



Pre-operative CT with enteral contrast demonstrating distended loops of bowel (star) and transition point (arrow).

CASE

A 44-year-old female with complex gynecological history presented with small bowel obstruction. She underwent robotic lysis of adhesions, bilateral oophorectomy, and presacral neurectomy two weeks prior to presentation. She was admitted twice in one week, managed conservatively with bowel rest and nasogastric decompression, and resolved her symptoms. On her third presentation with intractable nausea, vomiting, and obstipation, diagnostic laparoscopy was performed. A dense adhesion was encountered at the previous surgical site causing obstructive symptoms with decompressed ileum distally. The adhesion was divided to reveal a redundant suture tail attached to the ileum, causing a kink. Bowel was gently retracted off the suture tail, which was then truncated to a level of no identifiable excess. Post-operatively, the patient's symptoms resolved and she was discharged following tolerating a diet and passage of flatus and stool.



Laparoscopy demonstrating small bowel tethered with UBS.

CONCLUSIONS

- Critical evaluation of novel devices and materials is the responsibility of the operating surgeon[1]
- UBS usage requires close attention to technical details:
  - Complete re-approximation with 2 to 3 reverse throws
  - Clip suture tail flush with tissue to avoid exposing viscera to free end
- Consider use of absorbable adhesion barrier
- Maintain high index of suspicion for mechanical post-operative obstruction when using UBS, and consider early intervention with diagnostic laparoscopy rather than traditional conservative management

REFERENCES

[1] Köhler G, Mayer F, Lechner M, Bittner R. Small bowel obstruction after TAPP repair caused by a self-anchoring barbed suture device for peritoneal closure: case report and review of the literature. Hernia. 2015;19(3):389-94.

[2] Lee SW, Kawai M, Tashiro K, et al. Laparoscopic gastrointestinal anastomoses using knotless barbed absorbable sutures are safe and reproducible: a single-center experience with 242 patients. Jpn J Clin Oncol. 2016;46(4):329-35.